

AMENDMENTS TO THE CLAIMS

Claim 1 (Previously Presented): A metal sheet with anticorrosive coating formed from an anticorrosive paint on at least one side thereof, wherein

said anticorrosive paint contains a metallic zinc powder in an amount of 55 - 85 mass% of its solids;

said anticorrosive paint contains at least one kind of metal salt rust inhibitor in an amount of 1 - 20.3 mass% of its solids;

said metal salt is a salt of a metal which is more base than zinc; and

the metal salt rust inhibitor is a fine powder having an average particle diameter no larger than 1 μm .

Claim 2 (Original): The metal sheet with anticorrosive coating as defined in Claim 1, wherein the substrate is a steel sheet.

Claim 3 (Original): The metal sheet with anticorrosive coating as defined in Claim 1, wherein the coating film has a thickness ranging from 5 μm to 30 μm .

Claim 4 (Original): The metal sheet with anticorrosive coating as defined in Claim 1, wherein the metallic zinc powder has an average particle diameter ranging from 0.01 μm to 20 μm .

Claims 5-7 (Canceled)

Claim 8 (Original): The metal sheet with anticorrosive coating as defined in Claim 1, wherein the metal salt rust inhibitor is a phosphate.

Claim 9 (Original): The metal sheet with anticorrosive coating as defined in Claim 1, wherein the metal salt rust inhibitor is a phosphomolybdate.

Claim 10 (Original): The metal sheet with anticorrosive coating as defined in Claim 1, wherein a phosphate coating film is interposed between the metal sheet and the coating film of the anticorrosive paint.

Claim 11 (Previously Presented): A method of making a metal sheet with anticorrosive coating, the method comprising
coating an anticorrosive coating on a metal sheet; and
producing the metal sheet with anticorrosive coating as defined in Claim 1.

Claim 12 (Previously Presented): The metal sheet with anticorrosive coating as defined in Claim 1, wherein said metal salt is a salt of Al, Ca or Mg.

Claim 13 (Previously Presented): The metal sheet with anticorrosive coating as defined in Claim 1, wherein said metal salt is a salt of Ca.

Claim 14 (New): The metal sheet with anticorrosive coating as defined in Claim 1, wherein said metal salt is a salt of Mg.

Claim 15 (New): The metal sheet with anticorrosive coating as defined in Claim 1,
wherein the metal salt rust inhibitor comprises magnesium phosphate.

SUPPORT FOR THE AMENDMENTS

This Amendment adds new Claims 14-15. Support for the amendments is found in the specification and claims as originally filed. In particular, support for new Claims 14-15 is found in Claims 8 and 12 and in the specification at least at page 4, line 24 ("magnesium phosphate"). No new matter would be introduced by entry of these amendments.

Upon entry of these amendments, Claims 1-4 and 8-15 will be pending in this application. Claim 1 is independent.

REQUEST FOR RECONSIDERATION

Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the application, as amended, in light of the remarks that follow.

The present invention provides a metal sheet with an anticorrosive coating formed from an anticorrosive paint containing metallic zinc powder and at least one kind of metal salt rust inhibitor, where the metal salt is a salt of a metal that is more base than zinc.

Corrosion prevention by zinc has long been known, and metal salt rust inhibitors are also known. Specification at page 4, lines 4-6.

However, the present inventors are the first to find that a marked anticorrosive effect is produced by the *combination* of zinc powder with a metal salt rust inhibitor, where the metal salt is a salt of the metal which is *more* base than zinc. Specification at page 4, lines 6-10.

When a solution is formed from a combination of zinc powder with a metal salt rust inhibitor whose metal is *less* base than zinc, ions the metal of the rust inhibitor deposit in place of zinc. Thus, zinc is ionized in place of the metal of the rust inhibitor. This promotes corrosion of the metal sheet.

As discussed in the specification at page 4, lines 10-12, the mechanism of the anticorrosive effect of the present invention is not well known. However, according to Applicants' present understanding, when pH is too high or too low, the metal salt rust inhibitor of the present invention dissolves to make the pH more neutral whereby zinc salts having a protective effect against corrosion are generated.

Claims 1-4, 8 and 11-13 are rejected under 35 U.S.C. § 103(a) over EP 0722933 A1 ("Shinohara") in view of U.S. Patent No. 4,294,808 ("Wasel-Nielen"). Claim 9 is rejected under 35 U.S.C. § 103(a) over Shinohara in view of Wasel-Nielen and further in view of U.S. Patent No. 4,040,842 ("Mekishima"). Claim 10 is rejected under 35 U.S.C. § 103(a) over Shinohara in view of Wasel-Nielen and further in view of U.S. Patent No. 6,117,251 ("Rivera").

Any *prima facie* case of obviousness based on the cited prior art is rebutted by the significant improvement in corrosion resistance that is achieved by the present invention with the combination of zinc powder and metal salt rust inhibitor, where the metal salt rust inhibitor is a fine powder having an average particle diameter no larger than 1 μm . The attached Declaration Under 37 C.F.R. § 1.132 shows that a significant reduction in maximum corrosion depth, and variation in maximum corrosion depth, is achieved by the present invention by reducing the average particle diameter of the metal salt rust inhibitor to 1 μm or less.

Because the cited prior art fails to suggest the significant improvement in corrosion resistance that is achieved by the present invention with a combination of zinc powder and the metal salt rust inhibitor, where the metal salt rust inhibitor is a fine powder having an average particle diameter no larger than 1 μm , any *prima facie* case for the obviousness of independent Claim 1 is rebutted and should be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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Attachment:

Declaration Under 37 C.F.R. 1.132

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